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Service manual
Counting balances

KERN CDS / CKE

Version 2.0
4/2010
GB

CDS-CKE-SH-e-1020

GB

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Version 2.0 4/2010

Service manual

Counting balances

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1 Basic Information

Grundlegende Hinweise

The device must be repaired only by trained specialist staff or personnel with professional formation (such as a repair-specialist accredited by law concerning verification).

The service manual is obligatory for repair work.

After repair, original conditions of the device have to be restored.

Only original spare parts should be used.

Das Gerät darf nur von geschultem oder beruflich ausgebildetem Fachpersonal (z. B. eichrechtlich anerkannter Instandsetzer) repariert werden.

Die Serviceanleitung ist bindend für Reparaturen.

Das Gerät muss nach erfolgter Reparatur wieder in den Originalzustand zurückversetzt werden.

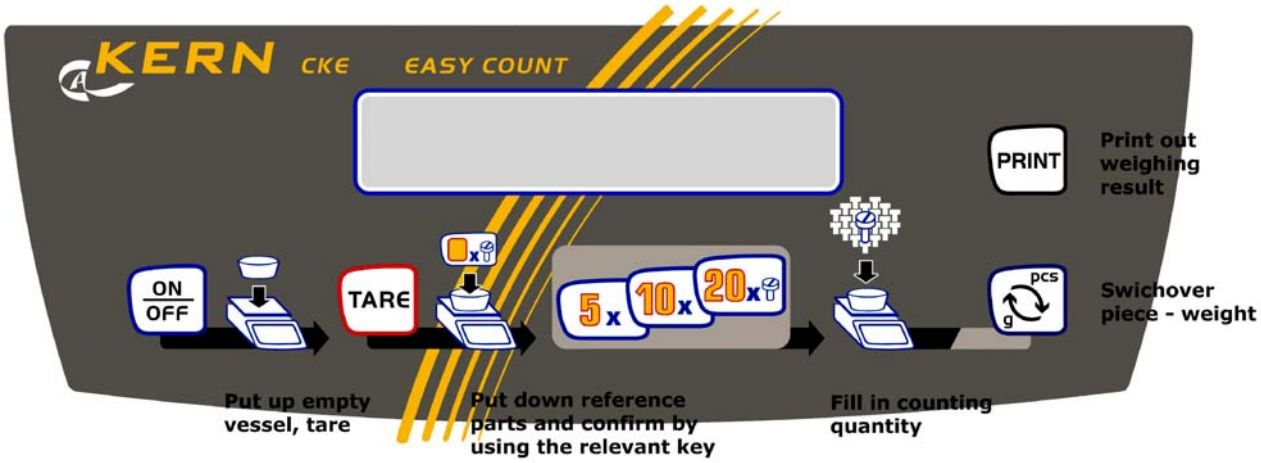
Es dürfen nur Originalersatzteile verwendet werden.

2 Introduction

This service manual covers the CDS and CKE series and is edited for the authorized servicing personnel.
Note all rights are reserved. Copying any part of this manual is prohibited without our permission.

3 Keyboard Description

CDS / CKE



ON/OFF

Taring;
Invoke the mode menu by pressing the ON/OFF key.

Generate reference using 5 parts;
In mode menu: NO function

Generate reference using 10 parts

Generate reference using 20 parts;
In mode menu: YES function

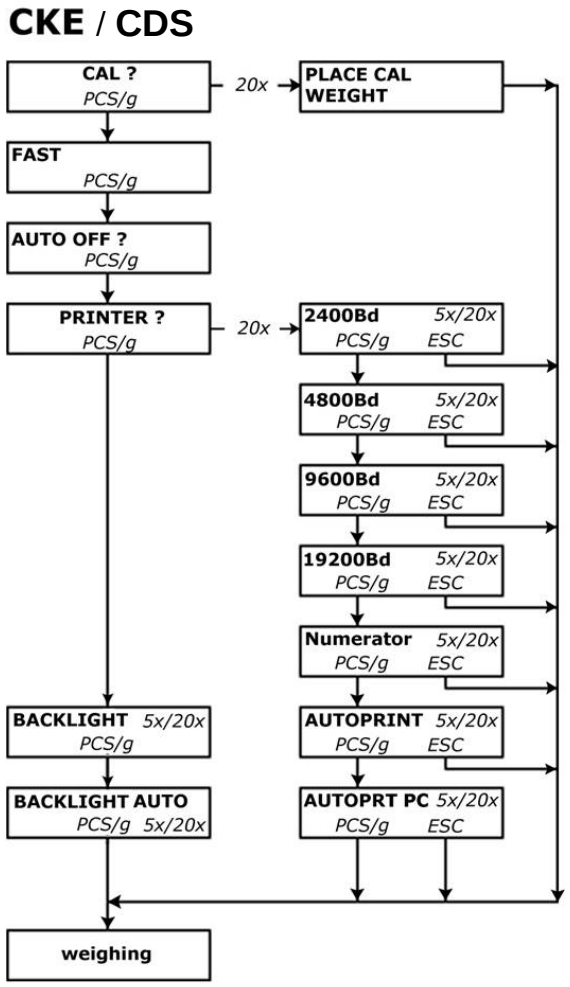
Switchover pcs ↔ g;
In menu: Mode function.

Print out weighing result.

4 Mode – Menu

How to invoke the mode menu:

Turn on balance. Press and hold the **TARE** key and press the **ON/OFF** key.



Factory settings:

9600bd: **YES**

Fast: **3**

Keyboard overview / Function

No	Yes

IMPORTANT!

The modified settings - as well as the adjustment - must be stored when switching-off, via the ON/OFF button.

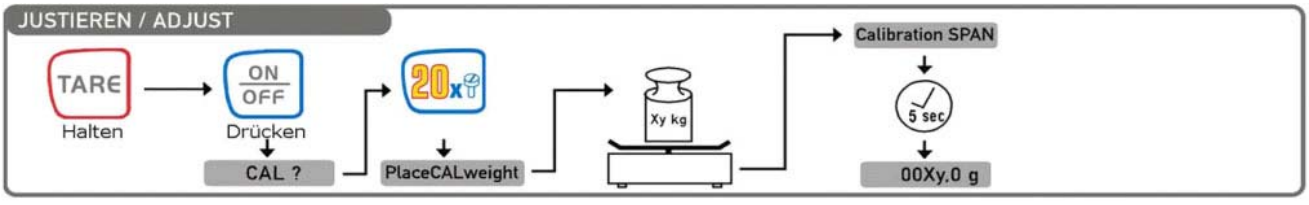
5 Troubleshooting

Interruption	Possible cause
==OVERLOAD==	• Either the scale is overloaded or there is a mechanical defect
= ==========	• Underload: Weighing range has been fallen short of • Mechanical defect or a defect in the main PCB
<< .	• In counting and % mode: part too light
bat .	• The rechargeable battery is empty and should be loaded
Weight display is not illuminated.	• The balance is not switched on. • The mains supply connection has been interrupted (mains cable not plugged in/faulty). • Power supply interrupted. .
The weight display changes continually	• Draught/air movement • Table/floor vibrations • The weighing plate is in contact with foreign matter. • Electromagnetic fields / static charging (choose different location/switch off interfering device if possible)
The weighing result is obviously incorrect	• The balance display is not set to zero • Adjustment is no longer correct. • Great fluctuations in temperature. • Electromagnetic fields / static charging (choose different location/switch off interfering device if possible)

Switch the balance off if other error messages should appear and then switch on again.
Contact the manufacturer if the error message does not disappear.

6 Adjustment

The balance must be adjusted at its place of installation before initial use and at regular intervals.
A warm-up time of about 2 hours is recommended for stabilisation.
Please use the recommended adjusting weight according to the technical data in the operating instruction.



7 Factory Menu

7.1 How to Enter the Factory Menu

1. Turn ON the balance.
2. Press and hold the TARE key approx. 10 seconds until [**Factory Reset?**] appears.
3. Press

key once.
4. The display appears [**Contrast xx**]. The balance is now in service mode.
5. Step trough with

key

7.2 Display Contrast

1. Turn ON the balance.
2. Press and hold the TARE key approx. 10 seconds until [**Factory Reset?**] appears.
3. Press

key once.
4. The display appears [**Contrast xx**].
5. With the keys

and

   insert the value and confirm with

key.

6. Press

key until the balance is in weighing mode, e.g. 0.0 g

Please notice the LCD segments are intense visible if the stored value is low.
If the stored value is high the LCD segments are low visible.

7.3 Factory Adjustment

1. Turn ON the balance.
2. Press and hold the TARE key approx. 10 seconds until [**Factory Reset?**] appears.
3. Press key twice until [**Lock ? N**] appears.
4. Set “Lock” to ON with key.

   The display appears [**Lock ? Y**].
5. Press key until the balance is in weighing mode, e.g. 0.0 g
6. Press and hold the TARE key and press simultaneously the ON/OFF key once. The display appears [**Cal ? N**].
7. Press key to start the factory adjustment. The display appears [**--------**], then [**Place CAL Weight**].
8. Place the **maximum weight** on the weighing pan.
9. Balance measuring for approx. one minute.
10. After that balance go back to normal weighing mode.
11. Remove the weight and **switch off the balance by pressing the ON/OFF-key.**
12. Now plug off the power supply and plug in again.

7.4 Automatic Linearity Adjustment

1. Turn ON the balance.
2. Press and hold the TARE key approx. 10 seconds until [**Factory Reset?**] appears.
3. Press key until [**Linear auto ?**] appears.
4. Press key to start the automatic linearity adjustment. The display appears the first linearity point, e.g. [**L1 2000.0g ?**].
5. Confirm with key or press the key to select another linearity point, which is outside the permissible tolerances, e.g. [**L2 4000.0g ?**] and confirm with key.
   The display appears [**Place Lin Weight**].
6. Place the required weight on the centre of the weighing pan and wait until you will get a stable weighing result.
7. Remove the weight. Now balance is in weighing mode.
8. **Switch off the balance by pressing the ON / OFF-key**.
9. Now plug off the power supply and plug in again.

Please notice the linearity points were defined and configured in our production line. Therefore it is not possible to change them afterwards without special configuration software.

7.5 Manual Linearity Adjustment

1. Turn ON the balance. After warming-up time and adjustment check balance readings in all measuring points. In case of differences make a note.
2. Press and hold the TARE key approx. 10 seconds until [**Factory Reset?**] appears.
3. Press

key until [**Linear man ?**] appears.
4. Press

key to start the manual linearity adjustment. The display appears the first linearity point, e.g. [**L 2000.0g +00d**].
5. With the keys

,

and

you can change the stored value.
6. Press the

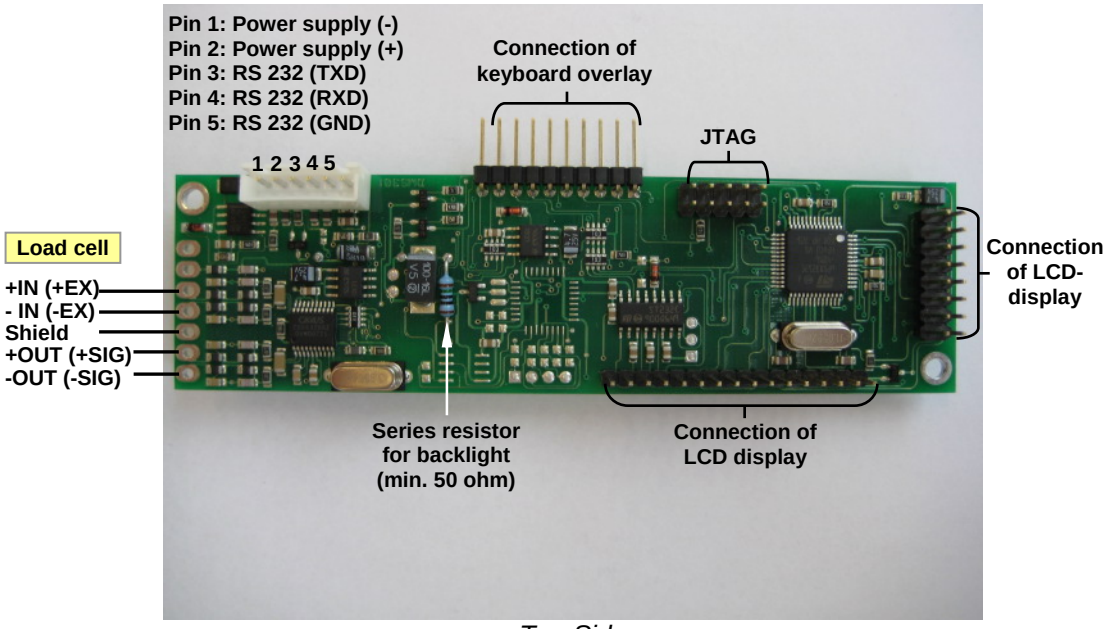
key to select another linearity point, which is outside the permissible tolerances, e.g. [**L 4000.0g -07d**] and inscribe the correction value like described above in point (5.) and so on.
7. To return to normal weighing mode press TARE key once.
8. **Switch off the balance by pressing the ON/OFF-key**.
9. Now plug off the power supply and plug in again.

Information:
If there is a positive difference (e.g. 2000.6 g = + 6 digit) you should subtract this difference to the stored value (e.g. [L 2000.0 -06d]).

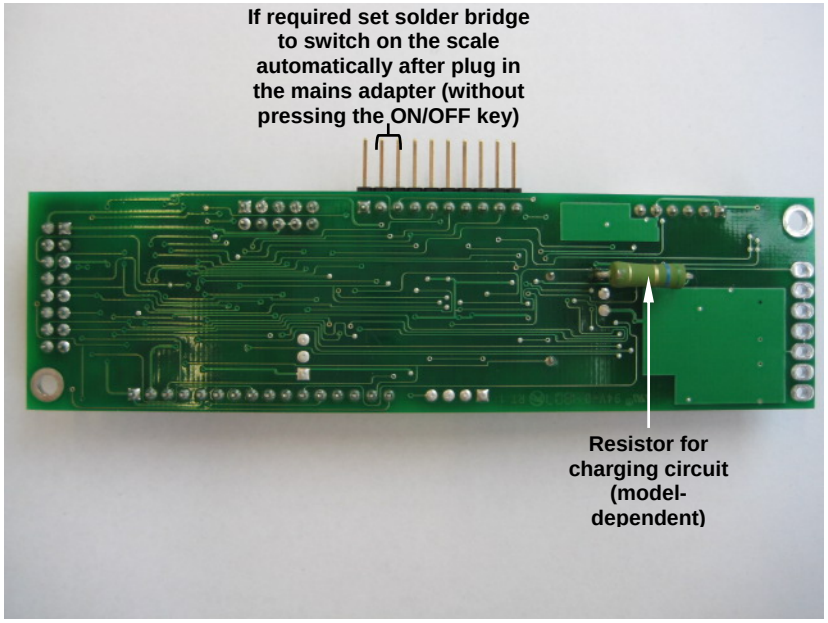
If there is a negative difference (e.g. 1999.4 g = - 6 digit) you should add this difference to the stored value (e.g. [L 2000.0 +06d]).

8 Electronics

8.1 Explanation and Connection of Main PCB



Top Side


If required set solder bridge to switch on the scale automatically after plug in the mains adapter (without pressing the ON/OFF key)
Resistor for charging circuit (model-dependent)

Bottom Side

8.2 Layout of Main PCB